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EXAMINER

TRUONG, CAM Y T

ART UNIT

PAPER NUMBER

2172

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6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,245

Applicant(s)

KATAOKA ET AL.

Examiner

Cam -Y T Truong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

1. Claims 1-47 are pending in this Office Action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, 6, 7, 10, 12, 13, 16, 18, 19, 22, 24, 25, 28, 30-32, 35, 38, and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Malik et al (USP 6438556).

As to claims 1, 7 and 13, Malik teaches the claimed limitations:

“a compressing step which divides a file into a plurality of sections” as compressing data including means for separating the data file into a plurality of segments, the plurality of segments including a plurality of unique segments (col. 11, lines 1-8) and “compresses each section of the file using a plurality of compression parameters” as compressing data including means for separating the data file into plurality of segments, means coupled with the separating means for providing a plurality of code words, each of the plurality of code words corresponding to a unique segment of the plurality of unique segments. In a preferred embodiment, the code words are provided in the order of the segment, the code words are provided in the order of the segments. Thus, the first segment is represented in the compressed file by a first code

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word. The second segment is represented in the compressed file by a second code word (col. 11, lines 1-15; col. 5, lines 24-30);

“a storing step which stores a compressed file in a storage medium” as once the source data file has been compressed using the conventional method 50, the conventional compressed file can be stored on the storage 16 or the memory 14 which may include a variety of devices such as a floppy disk (col. 3, lines 10-67; col. 7, lines 11-17).

As to claims 4, 10, 16, 22, 28 and 35, Malik teaches the claimed limitation “wherein said compressing step includes identification information of the compression parameters in control information of each section” as (col. 5, lines 10-20).

As to claims 6, 12, 18 and 24, Malik teaches the claimed limitation “a step which expands the compressed file which is read from the storage medium by a driver software which is independent of an application software of a computer” as (col. 11, lines 1-10; col. 5, lines 10-20).

As to claim 19, Malik teaches the claimed limitation “a region storing a file which is divided into a plurality of sections which are compressed using a plurality of compression parameters” as the data file which is stored in the memory 14 or the storage 16, is divided into a plurality of super-segments which are compressed (col. 7, lines 10-18; col. 11, lines 1-15);

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“a region storing the compression parameters” as code words are stored in conventional compressed file which is stored in storage 16 (col. 3, lines 60-67).

As to claims 25 and 32, Malik teaches the claimed limitation:

“a reading step which accesses a storage medium which stores a plurality of compression parameters and a compressed file, an original file being divided into a plurality of sections” as (col. 3, lines 28-40; col. 11, lines 1-20) and “compressed for each section using the plurality of compression parameters so as to obtain a plurality of section data forming the compressed file” as (col. 11, lines 1-20);

“an expanding step which expands the section data read from the storage medium by said reading step using the compression parameters corresponding to the section data” as (col. 11, lines 1-25; col. 7, lines 10-25).

As to claim 30 and 37, Malik teaches the claimed limitation “wherein said expandingstorage medium” as (col. 11, lines 1-10; col. 7, lines 5-20).

As to claim 31 and 38, Malik teaches the claimed limitation “wherein the driver software for the storage medium is independent of an application software of the computer as (col. 11, lines 1-10; col. 7, lines 5-20).

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 8, 14, 20, 26 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al (USP 6438556) in view of Reynar et al (USP 5951623).

As to claims 2, 8, 14, 20, 26, 33, Malik discloses the claimed limitation subject matter in claim 1, except the claimed limitation "wherein said compressing step uses the plurality of compression parameters based on a distribution of an appearing frequency for each word within said file". However, Malik teaches that compressing data by diving data into a plurality of segments. Reynar teaches that once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional techniques (col. 14, lines 13-18).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Reynar's teaching of once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional techniques to Reynar's system in order to save memory space.

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6. Claims 3, 9, 15, 21, 27, 34, 39, 40, 42, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al (USP 6438556) in view of Benveniste (USP 6349372).

As to claims 3, 9, 15, 21, Malik discloses the claimed limitation subject matter in claims 1, 13, 19, except the claimed limitation "wherein said compressing step includes a flag which indicates non-compressed data in control information of a certain section,in a form of compressed data than the non-compressed data". However, Malik teaches compressing portions of source file (col. 11, lines 1-15). Benveniste teaches that flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed. The directory entry formats may be extended so as to indicate the status of a segment with respect to its membership in the virtual uncompressed cache (col. 5, lines 62-67; col. 6, lines 1-10).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Benveniste's teaching of flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed. The directory entry formats may be extended so as to indicate the status of a segment with respect to its membership in the virtual uncompressed cache to Malik's system to check status of segments before compressing or reading.

As to claims 27, 34 and 42, Malik teaches the claimed limitation "wherein the compressed file further includes non-compressed section data of a certain section" as (col. 3, lines 25-40). Malik fails to teach the claimed limitation "a non-compression flag which indicates that the certainwhen the non-compression flag indicates a non-compressed state of the section data of the certain section read from the storage medium by said reading step". However, Malik teaches compressing portions of data file (col. 3, lines 30-40). Benveniste teaches that flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed (col. 5, lines 62-67). Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. (col. 17, lines 55-67).

It would have been obvious to a person of a ordinary skill in the art at the time the invention was made to apply Benveniste's teaching of flag bit indicates uncompressed segments and Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof to Malik's system in order to check status of portions of data file during expanding or compressing data file.

As to claims 39, 40 and 47, Malik teaches the claimed limitations:

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"stores a plurality of compression parameters and a compressed file in response to a read request from an application software" as storing compressed file which contains each code word in the portion of the compressed file in storage 16. The appropriate portions of the compressed file are then accessed. This information indicates the system has included a software in order to access the portion of the compressed file and each code word in the portion of the compressed file (col. 7, lines 10-35), "an original file being divided into a plurality of sections and compressed for each section using the plurality of compression parameters so as to obtain a plurality of section data forming the compressed file" as (col. 11, lines 1-15);

"and an expanding process section which expands the section data read from the storage medium by said reading process section using the compression parameters corresponding to the section data" as decompressing a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set. Once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14. The above information shows that to decompress a portion of the data by using code words, the system has to read the data from compressed file, which is stored in storage 14 such as a floppy disk (col. 11, lines 15-20; col. 3, lines 10-35) and "supplies expanded data to the application software" as decompressing a only portion of the representation of the data to allow a user access to a desired data set. This information shows that the

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system has included an application software to provide expanded portion data it before allowing a user access the desired data (col. 11, lines 5-20).

Malik fails to teach the claimed limitation "a reading process section which controls an access to a storage medium". However, Malik teaches reading a portion of the source data file, which is stored in storage 14 such as floppy disk (col. 3, lines 30-35; col. 7, lines 10-15). Benveniste teaches that the compression controller 260 includes a decompressor 262 used for reading compressed data in cache (fig. 2, col. 4, lines 10-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of the compression controller 260 includes a decompressor 262 used for reading compressed data in cache to Malik's system in order to check status of data to be accessed during reading data.

As to claim 45, Malik teaches the claimed limitation "wherein said expandingstorage medium" as (col. 11, lines 1-10; col. 7, lines 5-20).

As to claim 46, Malik teaches the claimed limitation "wherein the driver software for the storage medium is independent of an application software of the computer as (col. 11, lines 1-10; col. 7, lines 5-20).

7. Claims 5, 11, 17, 23, 29 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al (USP 6438556) in view of Ikegami (USP 6112208).

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As to claims 5, 11, 17 and 23, Malik discloses the claimed limitation subject matter in claim 1, 13, 19, except the claimed limitation "wherein said compressing step adds end.....a flag indicating that the end information is deleted....other than last section". However, Malik teaching compressing data file (col. 11, lines 1-10). Ikegami teaches that in the Huffman coding method, all pieces of input data are read. A data file is composed of binary data of 0s and 1s can be represented as symbol string in such as manner that each byte of the data file is correlated with one character symbol. The occurrence probability of each symbol in the input data is obtained. Next, an occurrence probability table that represents the occurrence probability of each symbol is generated. Next, a code is added to each symbol so as to identify the symbol in a predetermined method. When the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 1, lines 45-60; col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of the Huffman coding method, all pieces of input data are read. A data file is composed of binary data of 0s and 1s can be represented as symbol string in such as manner that each byte of the data file is correlated with one character symbol. The occurrence probability of each symbol in the input data is obtained. Next, an occurrence probability table that represents the

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occurrence probability of each symbol is generated. Next, a code is added to each symbol so as to identify the symbol in a predetermined method. When the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Malik's system in order to check status of portions of data file during expanding or compressing data file.

As to claim 29, 36, Malik discloses the claimed limitation subject matter in claim 1, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not said reading step reads the section data by judging a last section based on the delete flag". However, Malik teaches compressing portions of data file. Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of

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an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Malik's system in order to check status of portions of data file during expanding or compressing data file.

8. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al (USP 6438556) in view of Benveniste et al (USP 6349372) and further in view of Reynar et al (USP 5951623).

As to claim 41, Malik and Benveniste disclose the claimed limitation subject matter in claim 1, except the claimed limitation "wherein said compressing step uses the plurality of compression parameters based on a distribution of an appearing frequency for each word within said file". However, Malik teaches that compressing data by diving data into a plurality of segments. Reynar teaches that once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional techniques (col. 14, lines 13-18).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Reynar's teaching of once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional

techniques to Reynar's system in order to save memory space.

9. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al (USP 6438556) in view of Benveniste et al (USP 6349372) and further in view of Ikegami.

As to claim 43, Malik discloses the claimed limitation subject matter in claim 1, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not said reading step reads the section data by judging a last section based on the delete flag". However, Malik teaches compressing portions of data file. Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Malik's system in order to check status of portions of data file during expanding or compressing data file.

10. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malik et al (USP 6438556) in view of Benveniste et al (USP 6349372) and further in view of Ikegami (USP 6112208).

As to claim 44, Malik and Benveniste disclose the claimed limitation subject matter in claim 1, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not said reading step reads the section data by judging a last section based on the delete flag". However, Malik teaches compressing portions of data file. Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Malik's system in order to check status of portions of data file during expanding or compressing data file.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure
Heising (USP 5333313).

Contact Information

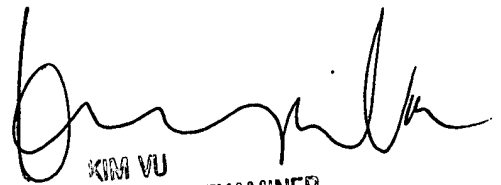
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam-Y Truong whose telephone number is (703-605-1169). The examiner can normally be reached on Mon-Fri from 8:00AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu, can be reached on (703-305-4393). The fax phone numbers for the organization where this application or proceeding is assigned is (703)-746-7239 (formal communications intended for entry), or: (703)-746-7240 (informal communication labeled PROPOSED or DRAFT).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703-305-3900).

Cam-Y Truong

5/5/03


KIM VU
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